

# City of Mesa / Arizona State University Pedestrian Area Assessment Report Draft - March 2003

PREPARED FOR:



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# 1. Introduction

ASU East, originally the site of the Williams Air Force Base, was chosen as a location for a MAG sponsored pedestrian study and design project. This project would explore a number of ways through which a section of the study area, selected through the process of the study, could be improved to accommodate the projected growth of the campus, its pedestrian demands and MAG Pedestrian Area Policies and Requirements. A number of campus users, administrators and planners have recognized the need for pedestrian improvements within the campus core and are in the process of investigating future needs and design issues, and initiating past and present design and planning solutions.

As of today, the campus core is primarily a vehicular oriented community with poor pedestrian conditions as illustrated by the "**Pedestrian Conflicts**" map 4. There is minimal existing landscaping and huge expanse of asphalt and dirt. (See "**Existing Conditions**" map 1) It is easy to notice that, today, the core is mostly a vehicular dominated space with approximately 20% of surface area dedicated to vehicle parking. Existing buildings are older, nondescript style, utilitarian structures some of which are in the process of physical and functional revamping.

Physical land use types are a mix of the following uses with a small number of residential structures composing the overall mix:

- Administration buildings
- Academic department buildings (Tech Center etc.)
- Classroom bldgs. and faculty
- Student Activity centers/bookstores/Eating areas.
- Residential bldgs.
- Storage areas
- Recreational areas
- Abundant parking areas

The key pedestrian generators are mostly composed of the classroom buildings, the student activity center, dormitories and a few destination points such as the gym, pool, library and the present Student Union. (See "**Pedestrian Access**" map 3)

As the first major addition to the campus, a new student union will be constructed in a central location indicated on the "**Land Use**" map 2. Being located within the physical center of the campus core, it has the potential of drawing large numbers of individuals from the surrounding residential, classroom and administrative buildings for a number of social engagements and activities planned to take place there. It is foreseen to be a major pedestrian generator.

Currently, the only transit route to the campus core is the existing shuttle from ASU Main. Its present and proposed stops are illustrated in the "**Pedestrian Conflicts**" and "**Proposed Pedestrian Movement**" maps 4 & 6 respectively. There is some dialog of providing a passenger bus route to the campus, but as of yet, that desire has not been realized. As the campus grows, the need for that type of a connection will grow with it, and eventually it will have to be provided. It is not yet determined whether the passenger bus route will make its way around the campus core. If it does, some of the proposed stops for the ASU shuttle can also act as stops along the transit bus route.

## 2. Principal Analysis

### A. Pedestrian Level Identification:

There are 3 levels of pedestrian areas as identified by MAG

**Level 1:** Pedestrians by Necessity, who are locals, primarily numerous daytime users, walking to places of required attendance, obtaining basic necessities, or for recreation and social interaction. Pedestrian and vehicles are equal in importance.

**Level 2:** Mixture of Pedestrians by Necessity and Choice (have access to a car but choose to walk). They are from local and regional base, moderately numerous at daytime, walking to places of required attendance or for recreation and social interaction. Vehicles take precedence over the pedestrian. Pedestrian use is recognized at a minimum level. Planning and facilities for the vehicle is paramount.

**Level 3:** Pedestrians by Choice. They are from other areas as well as local and regional base, or tourists visiting specifically for the pedestrian experience. Numerous at all times of the day and present in the area because there is something special to do and see. Pedestrians take precedence over the vehicle. The pedestrian is supported with a full range of facilities, experiences and access. Vehicular traffic is directed around the pedestrian area.

The campus core mostly follows Level 2 description. As seen from preceding discussion, the vehicular access and provisions are paramount. Most of the existing pedestrians are from a regional base, present during the daylight hours and frequenting places of required attendance, thus the pedestrian provisions are recognized at a minimum level. The campus, however, is expected, and has been growing at an estimated annual rate of 30% since approximately 1997, raising the current enrollment of 2,200 students to over 17,000 by the year of 2010. At this rate of growth the current conditions are not and will not support the existing and future pedestrian demands on the campus. This deficiency has been recognized by the ASU Planning staff and steps have already been taken to improve the conditions. Phase I, identified in all the provided graphic resources, is the first step taken by ASU to create a pedestrian friendly environment to meet the growing pedestrian demands of the campus. The area for this study is associated with Phase II of the ASU pedestrian plan.

### B. Analysis of pedestrian opportunities at ASU East:

This study has been conducted based on consideration of the General Principles of Pedestrians as proposed in the *Pedestrian Area Policies And Design Guidelines* by MAG (MAG 1995).

There are 12 principles to be considered and they will be analyzed as follows:

**Principle #1:** *People will choose to walk a 10 minute trip or 1/4 mile to a destination, if the route is comfortable and safe, or if the need is great.*

Most of the Core of ASU East can be accessed and crossed in 10 minutes or less walking distance. Existing shuttle stops do not provide the pedestrian with this opportunity in all cases. Existing buildings are in close proximity to each other. (See "**Land Use**" map 3) Currently the campus has abundant parking lots directly adjacent to destination buildings. This promotes the use of vehicular mode versus pedestrian mode of circulation. Existing pedestrian routes (sidewalks, etc) are not comfortable, or complete. Roadways become sidewalks, resulting in pedestrian/vehicular conflicts, (see "**Existing Conditions**" and "**Pedestrian Conflicts**" maps 1 & 4) thus the need to provide and improve pedestrian routes.

**Principle #2:** *People will choose to walk if the route is interesting.*

On site, there is one pedestrian route that is interesting and attractive, the newly constructed diagonal Mall Walk. The existing sidewalks are for the most part, narrow, unattractive, and hot. Many walks end abruptly and pedestrians end up on roadways to reach their destination. (See "**Pedestrian Access**" map 3) Phase I of the ASU construction will provide new pedestrian ways which will enhance pedestrian routes, but the need to link the rest of the campus still arises.

**Principle #3:** *The land use mix and its density influences whether people walk.*

ASU campus has a diversity of land uses, however that diversity is rather poor. (See "**Land Use**" map 2) Many of these uses are within a 1/4-mile distance from each other. This diversity as well as possible future campus developments can and will be good encouragements for people to walk to various destinations. Presently, pedestrian links are not strong, for many reasons as discussed above, but with careful planning and development, comfortable, attractive and safe pedestrian routes can be achieved through the campus area, connecting the various land uses successfully.

**Principle #4:** *The pedestrian route is more likely to be used if destinations are closely spaced, and building entrances are located immediately adjacent to the pedestrian route.*

As identified in principle 1, most destinations on campus are within walking distance to each other. Unfortunately, with undesirable walking conditions and proximate vehicular access, people are not encouraged to walk, but to use their vehicles and go from one destination to the next. This kind of an environment creates a plethora of conflicts and potentially dangerous areas for the pedestrian. The "**Pedestrian Conflicts**" Map 4 shows the vehicular routes and proximate parking to buildings discouraging pedestrian movement.

With careful re-routing of vehicular circulation and parking locations, pedestrian connections can be enhanced and strengthened. This process is now in its beginning stages with in the ASU Planning Facilities. The initial planning and layout of the proposed vehicular loop and pedestrian routes are illustrated in "**Proposed Pedestrian Movement**" map 6. Building entrances need to be emphasized and opened to pedestrian routes without barriers such as the parking lots that exist today.

**Principle #5:** *Pedestrians seek the most direct route: the lack of a convenient direct route may determine whether people walk or not.*

Existing roads and sidewalks provide a "close-knit" network of potential pedestrian routes on campus. If these routes are developed and enhanced, they will provide a successful network of pedestrian connections throughout the campus, as well as a connection off campus, from surrounding residential facilities. "**Proposed Pedestrian Movement**" map 6, shows the proposed network of pedestrian connections. As of today these routes are isolated from what is around them and need to be developed not only as pedestrian thoroughfares but also as connections with a relationship to the surrounding structures.

**Principle #6:** *The pedestrian will always lose in a collision with a vehicle*

Most of the Pedestrian routes on campus are not separate from vehicular traffic. As mentioned, many sidewalks dead end into streets, presenting pedestrian/vehicular conflicts. (See "**Pedestrian Conflicts**" and "**Existing Conditions**" maps 1 & 4) These are in areas where shared vehicular and pedestrian surface occur, and where there are street crossings. "**Pedestrian Conflicts**" map 4 identifies a number of crossings where pedestrian/vehicular conflicts could occur, and efforts should be made to make them safe for pedestrians by slowing or removing traffic, through pedestrian crossings, speed limit control, speed bumps, or closing an area off completely from vehicles.

**Principle #7:** *People will create a path if there is a compelling need to walk.*

While there are many existing sidewalks, they are not complete, or desirable. Many pedestrians end up on roadways to access destination buildings. As more buildings are developed and built, (i.e. new Student Union), these routes will become more and more important, as pedestrian demands increase. A number of pedestrians have been observed using these streets to reach their destination points, demonstrating the need to provide comfortable and safe pedestrian routes to these destination building. (See "**Pedestrian Conflicts**" map 4)

**Principle #8:** *The number of curb cuts for driveways along a walkway is inversely proportional to the pedestrian's perception of it as a desirable route.*

There are numerous parking lots all over campus. Parking lots comprise about 20% of the campus core. This results in many curb-cuts for driveways into the parking areas, many of which cut through existing sidewalks, making the pedestrian route less desirable. Proposals for re-location of parking sites to peripheral locations of campus will minimize vehicular traffic, as well as minimizing the number of curb cuts through pedestrian routes. This will serve to create pedestrian routes with less vehicular/pedestrian conflicts, making the routes safer and more comfortable.

**Principle #9:** *If people do not feel personally secure, even though the pedestrian route is considered safe from traffic, they will not choose to walk.*

Pedestrian routes that are considered safe and secure are ones that:

1. Have no visual barriers such as bushes or hiding walls, etc, where someone can hide and surprise an unwary pedestrian.
2. Where there are people.
3. Where there is some form of "police" surveillance.
4. Good maintenance and upkeep
5. Proper lighting at night.

Most of the campus is pretty open and barren. Visual barriers are not issues. Current population on campus is estimated to be approximately 4,000 and increasing steadily. Pedestrians are available, but because of undesirable pedestrian conditions, pedestrian traffic is not abundant.

Existing conditions require minimal maintenance (not much to maintain as yet). With future developments maintenance needs will increase.

Lighting occurs along streets and parking areas. Pedestrian lighting is not abundant.

In analyzing the above factors, there are areas to be addressed in order to provide safe and secure pedestrian routes on campus. Appropriate pedestrian lighting, signage and "safe" planting design practices are of paramount importance.

**Principle #10:** *Pedestrians like to be separated from moving traffic.*

Pedestrians feel safe, when there is a buffer, between them and moving traffic. This can be achieved in 2 ways.

1. A landscape buffer between the sidewalk and the street
2. On-street parking. Parked cars offer an effective sense of safety and a buffer from vehicular traffic.

Most of the existing sidewalks are directly adjacent to curbs, thus there is no landscape “buffer” for the pedestrian. Most of the campus parking occurs near or adjacent to buildings in parking lots. This serves to provide proximate access to destinations, but does not promote “safe” pedestrian access to other buildings. There is some on-street parking but no sidewalks adjacent to it to provide “buffers” for pedestrians unless they choose to walk through decomposed granite filled planters.

**Principle #11:** *People will choose to walk if the walkway has sufficient capacity*

Pedestrians feel comfortable when a walkway is wide enough to accommodate them comfortably, walking in both directions, away from existing traffic, with no fear of bumping into each other. Space is a desirable buffer.

The pedestrian walkways on campus are narrow and ugly. The newly built Mall Walk is an example of a well-spaced and comfortable walk, sorely lacking on campus. Concepts have been and are being developed to widen existing sidewalks, and to develop new wider ones, with pedestrian amenities and buffered with trees, to create a comfortable pedestrian space. If this direction is pursued, it will certainly serve to enhance the pedestrian quality of life on campus.

**Principle #12:** *Pedestrians feel most comfortable in areas, which have “human scale” in design elements*

Large looming buildings, tall streetlights, and wide streets tend to make the individual feel small, vulnerable and exposed.

Buildings on campus are not tall skyscrapers. Instead, it has a very comfortable height and human scale with predominantly low buildings. This serves as a positive element in making the pedestrian spaces & routes comfortable, providing “human scale” to the pedestrian spaces. Providing amenities like benches and bollards and monuments will not only block off unwanted vehicular access but also serve to achieve this comfortable scale.

**Conclusion**

In analyzing the ASU East Campus with the Pedestrian Principles and guidelines as set out in MAG, we can see that much of the existing conditions on campus do not satisfy the requirements for a desirable Pedestrian Area. However, there is great potential for creating and establishing such an Area. Developments in Phase I of the campus, constructed and proposed, is a preview of the potential.

The proposed development of Phase 2 of the project will serve as a continued catalyst to the future development of ASU East, to achieve a campus area that will be safe attractive, comfortable and successful as a Pedestrian Oriented Community, connecting the campus core via a new pedestrian network, drawing people from the surrounding community not just for educational pursuits, but also for relaxation and entertainment.



## **C. Discussion of General Policies for the study area:**

### **Security**

- Provide police bicycle patrol as the campus grows. Currently police are only present on foot at the site of the future student union building. As the campus grows there will be a need for increase in pedestrian security in order to bring up the pedestrian safety level.

### **Planning**

- Use of street trees, lighting, directional signage, furnishings and paving materials to establish and emphasize theme. This has been and is in the works with the ASU East Planners and Landscape Architects.
- Propose to cluster new buildings so as to maximize the pedestrian connections between uses.

### **Community Participation**

- Encourage community events that involve local residents.
- Provide art, sculpture and music at specific areas as well as along pedestrian routes. Some of these things are planned for with the proposed construction of the new Student Union.

### **Pedestrian Education**

- Cultural features incorporated into the pedestrian environment. The proposed arboretum walk, illustrated in map 6, is one example.
- Include interpretive signage.

## **D. Discussion of General Design Guidelines:**

### **Walkway Width**

- Provide a minimum of 15' wide walkway. ASU East is proposing a 20' walkway standard for the major pedestrian malls, allowing for emergency and maintenance vehicle access, with 20' landscape buffers along each side, providing shade and seating opportunities for the pedestrian.
- Separate pedestrian from traffic where traffic is present by incorporating on-street parking or a minimum of a 6' planting buffer along the street edge adjacent to the pedestrian walk.

### **Intersections**

- Create curb extensions such as medians or bulbing for pedestrian refuge and reduction of street crossing distances.
- Plan for mid block crossings as pedestrian travel increases, if blocks are too long.

### **Traffic Calming Techniques**

- Traffic circles.
- Stop signs rather than traffic lights allow for more frequent crossings.
- Maintain a 2 lane maximum street width with landscaped median.

### **Walkway Character**

- Orient building entrances toward pedestrian routes.
- Minimize curb cuts.
- Provide rich detailed walkways that are not coincidental to the street system.

### **Walkway Furnishings**

- Provide seating opportunities at approximately 500' intervals along primary pedestrian routes.
- Provide drinking fountains at central locations.
- Provide plazas and green spaces along pedestrian routes for passive recreation and relaxation.



### **Walkway Shade**

- A minimum of 50% shade along pedestrian routes for a measure of comfort while walking.

### **Parking**

- Relocate parking to the perimeter of the pedestrian area. Consider on-street parking along the outside loop for additional buffer from traffic.

### **Lighting**

- Provide pedestrian scale lighting at 2 foot candles. Thematic lighting for the pedestrian routes.

### **Signage**

- Directional signage, with a cohesive theme, to pedestrian generators within the area.

### **Bicycle access**

- Provide routing for users to the pedestrian areas. Bike routes mixed with pedestrians can sometimes be dangerous, thus, regulate the times of allowed bike travel or completely separate the two. Provide bike parking nodes at shuttle stops, entrances to major pedestrian routes and destination points within the pedestrian environment. Bike parking nodes seem to be more appropriate for the southern boundaries of the campus core, for it takes longer to walk from the southern residential neighborhoods to the core.

### **Transit access**

- Provide connections to the regional transit system.

### 3. Stakeholder Comments

The first public meeting was held on March 6, 2003, at the current Student Union building. A number of people from the surrounding community were in attendance. The first thing that must be said is that everyone present at the meeting realize the need for improvements of the pedestrian environment within the campus core.

There was no opposition to the proposed solutions based on the analysis of the available data. All were in agreement that the campus needs to be improved. The majority of discussion, however, revolved around the proposed Student Union Building, presented by Christy Ten Eyck who was present at the meeting. The discussion revolved around the landscape issues, spatial arrangements and layout of the exterior spaces around the building. Opinions were voiced regarding ground plane materials use in gathering areas and whether or not they were appropriate for a gathering. The materials were hardscape elements vs. grass. Majority of the discussion was between Mike Mader, the Student Union representative, and Christy Ten Eyck. At first it appeared that the discussion was wandering away from the issues of the pedestrian study. However, as discussion moved on from the issue of materials to the courtyard connecting the new building with the existing building to the west, the problem of connectivity of the surrounding area to the new courtyard became apparent.

At this point the proposed layout of the pedestrian malls, rerouting of traffic and closing off of the internal street framework of the campus core were presented. The issues discovered in Phase I were presented and the need to connect to the new building and Phase I improvements became more evident. A discussion followed, the biggest point of which was the order of development. Should the campus core be improved prior to the surrounding areas? Jennifer Young, a graduate student on campus, described the need for improvements within the residential areas as of prime concern and illustrated the need with examples of unsafe conditions such as lack of pedestrian walkways, lighting and unsafe travel speed of vehicles.

This encouraged a discussion of the priorities of development and exchange of points of view regarding this issue. The topic of debate was the order of design and improvement. Should the pedestrian environment within the core be improved first, thus providing a pleasant, safe and comfortable environment at the destination, or should the pedestrian routes to the study area of the core be developed, providing a pleasant route to an unpleasant and unsafe destination.

The belief is that the majority agreed with the core development as being of primary need recognized by the anticipated growth of the campus, increase in student services and classrooms and an increase in the student body and the need for their safety while traveling between destination points.

The following are additional issues and perceived needs voiced by the public present at the meeting on March 6, 2003:

- Not much residents at this point to generate sufficient pedestrian traffic.
- Few opportunities for outside residents to move in on to campus.
- The Campus Core should be viewed as a "Gateway" between the North and South Residential areas.
- Traffic needs to be slowed in the adjacent residential areas.
- Provide adequate pedestrian walkways connecting the residential areas with the Core.
- Providing a green space in the center of the core is a good idea.
- Extend the proposed South Twining Mall to join with the Outer Loop Road.
- Provide a better pedestrian connection to the core from South Desert Village residential area.
- It appears that the study is too isolated from the rest of the campus.  
Need to take a look at the pedestrian environment of the adjacent residential neighborhoods.
- Need to improve connections to the new Student Union Building and courtyard.
- Ultimately no parking along the streets will be allowed.
- All parking will be paid and pushed out to the periphery of the core.
- What will happen with the Dining Hall?
- Will there be a bus connection to the campus?
- Proposed parking areas need to lend themselves to pedestrian access.
- Pedestrian lighting for security needs to be incorporated into the design.
- Provide Blue Emergency Phones along pedestrian routes.
- Develop signage standard as means of way-finding within the core.
- Need to provide comfortable, shady walkways for people to use them.

In conclusion, the discussion of the proposals for the campus core isolated South Twining as the next logical area for development in view of the proposed Student Union, its location, importance to the campus as a pedestrian generator for a number of proposed activities and a connecting route to the center of campus for the Desert Villages residential communities.

## 4. Potential

The potential of improvement to the core of the campus is viewed as substantial. If the appropriate sections of the study area are developed, they will fall right in to place with the increased pedestrian demands to the center of the core. With the addition of a new pedestrian generator, namely the Student Union building, the need for a comfortable pedestrian access to its location for a myriad of activities to take place there is increased.

Some of the amenities proposed along the pedestrian routes include seating areas, pedestrian lighting, signage, water features and drinking fountains, landscape and most importantly shade trees and canopies as necessary. Bike access to the core shall also be provided. Its' realization, however, is still an issue for discussion. Questions revolving around this topic relate to safety issues of mixing pedestrian and bike travel. Some of the solutions on the table is the separation of the two modes of transportation or allowing bike travel at specified times only. Bike storage areas at entry to the core and at destination points with in it are still necessary.

Finally, the construction of the improvements has the potential of increasing the "Snowball Effect". The visible improvements to the campus and their obvious benefits increase the desire and the probability of the continued effort to make the ASU East Campus Core a better place to be, study at and visit. Not to mention increased appreciation from the student and faculty for recognizing the need to improve their environment.

## 5. Support Programs

The funding dollars for this project are derived from **Proposition 301** Dollars.